

PBCS Monitoring Report

January 2016 – June 2016

August 2016

CRA Japan

Technical Management Center (TMC)
CIVIL AVIATION BUREAU OF JAPAN

- ◆ Availability
- ◆ Observed Performance by Media Type
- ◆ Observed Performance by Month
- ◆ Observed Performance by Station Identifier
- ◆ Observed Performance by Operator
- ◆ FANS 1/A over Iridium
- ◆ FANS 1/A over SBB
- ◆ Investigation
 - Poor performance for Operator N

AVAILABILITY

Notified System Outages (Unplanned)

Jul 2015 ~ Jun 2016

Start Date	Start Time	Duration (min)	CSP	Service Involved	Location Involved	Notes
2015/09/05	01:53	120	ARINC	I3	XXP	India and Pacific Ocean Region for Classic Aero over I3
2015/09/05	01:53	120	ARINC	I3	XXI	India and Pacific Ocean Region for Classic Aero over I3
2015/09/05	03:21	43	SITA	Iridium	IGW1	Unexpected Service Degradation(Iridium Datalink ACARS Service)
2015/09/20	12:45	258	SITA	I3	POR1	Unscheduled loss of Classic Aero Services in Pacific Ocean Region (POR)
2015/09/20	12:52	252	ARINC	I3	XXP	Unscheduled loss of Classic Aero Services in Pacific Ocean Region (POR)
2015/09/25	16:31	165	SITA	Iridium	IGW1	Iridium Datalink ACARS Services
2015/09/25	16:31	123	ARINC	Iridium	IG1	Iridium is experiencing an outage
2015/09/30	18:45	20	SITA	I3	IOR2	Inmarsat experienced a network service degradation
2015/09/30	19:19	54	ARINC	I3	XXI	Inmarsat experienced a network service degradation
2015/10/30	01:05	50	SITA	I3	POR1	Inmarsat experienced a network service degradation
2015/10/30	01:56	7	ARINC	I3	XXP	Inmarsat experienced a network service degradation
2016/01/07	17:27	104	ARINC	I3	XXI	India Ocean Region for Classic Aero over I3
2016/01/09	16:36	14	SITA	SITA	Global	A network interruption switch over to our Montreal Center.
2016/03/07	11:30	24	ARINC	I4	XXA	A network service degradation.
2016/03/14	20:20	63	SITA	MTSAT	MTS1	MTSAT Data 2 Service interrupted due to LINE failure.
2016/05/12	07:33	78	SITA	SITA	Global	Unexpected Service Interruption All VHF and Satellite Data Services
2016/05/13	01:45	13	ARINC	I4 SBB	XXS	the ARINC Inmarsat Swift broadband service outage
2016/06/07	02:22	1	SITA	SITA	Global	Schedule config load

Summary

Jul 2015 ~ Jun 2016

DSP	Location	Availability	Number of Unplanned Outage	Number of Unplanned Outages > 10min	Accumulated Unplanned Outage Time (min)
SITA	Global	99.98%	3	2	93
	MTS1	99.99%	1	1	63
	POR1	99.94%	2	2	308
	IOR2	100.00%	1	1	20
	APK1	100.00%	0	0	0
	IGW1	99.96%	2	2	208
ARINC	Global	100.00%	0	0	0
	XXP	99.93%	3	2	379
	XXI	99.95%	3	3	278
	XXA	100.00%	1	1	24
	IG1	99.98%	1	1	123
AVICOM	Global	100.00%	0	0	0

RCP240/RSP180 Criteria					
Safety		99.90%	---	48	520
Efficiency		99.99%	---	4	52

OBSERVED PERFORMANCE BY MEDIA TYPE

Observed Performance by Media Type

Observed Performance by Media Type

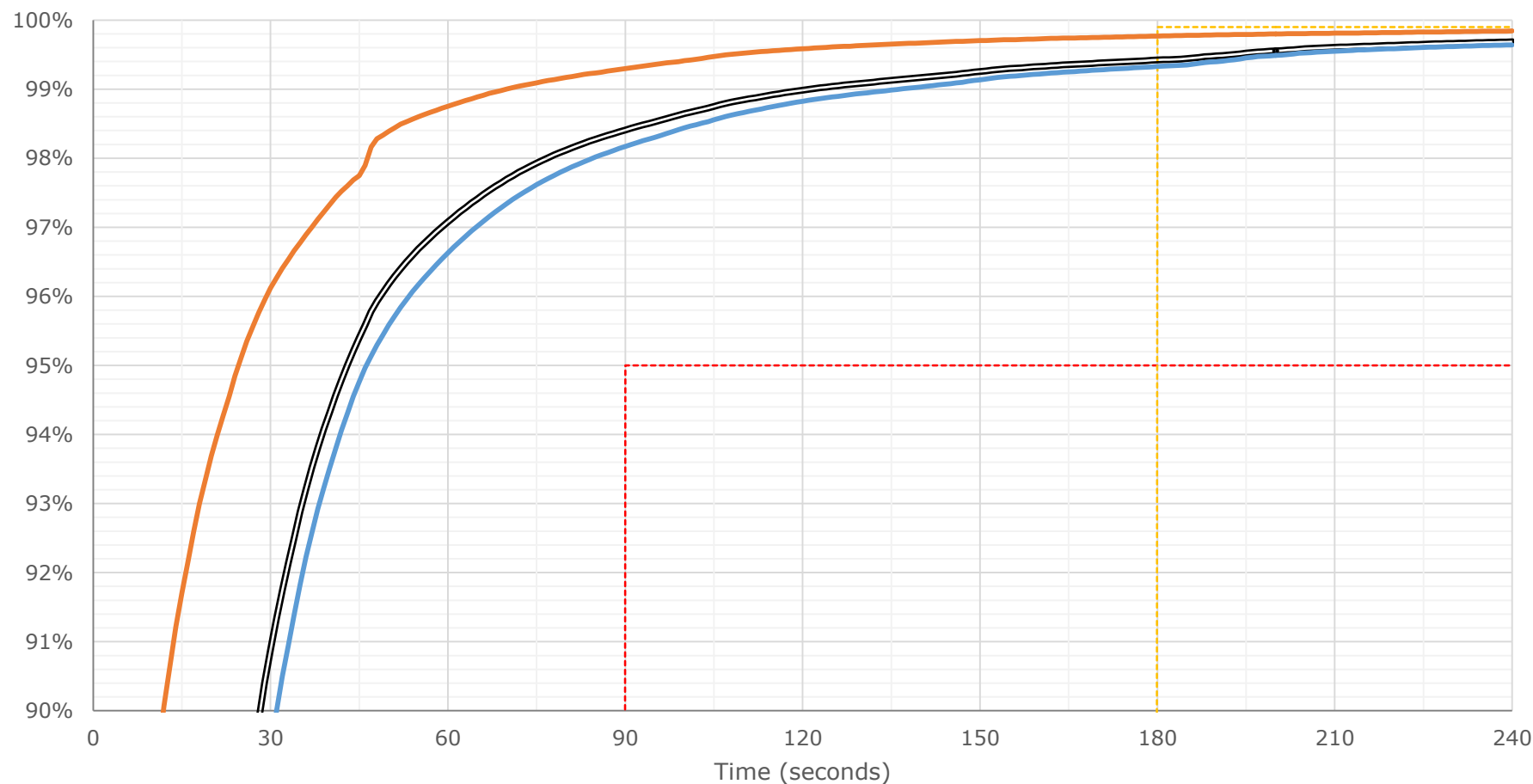
Jan 2016 ~ Jun 2016

Media Type	ADS-C [RSP180]			CPDLC [RCP240]					
	Count of ADS-C	ASP		Count of CPDLC	ACTP		ACP		PORT
		95% (90sec)	99.9% (180sec)		95% (120sec)	99.9% (150sec)	95% (180sec)	99.9% (210sec)	95% (60sec)
Aggregate	2,384,117	98.41%	99.42%	46,446	99.39%	99.53%	99.33%	99.56%	98.83%
SAT	1,878,365	98.17%	99.33%	42,548	99.39%	99.52%	99.33%	99.56%	98.86%
VHF	505,752	99.30%	99.77%	3,472	99.77%	99.83%	99.60%	99.74%	98.68%
Meets criteria ⇒			Under criteria but above 99.0% ⇒				Under criteria ⇒		

Fukuoka FIR - By Media Type - Jan to Jun 2016

ADS-C Actual Surveillance Performance (ASP)

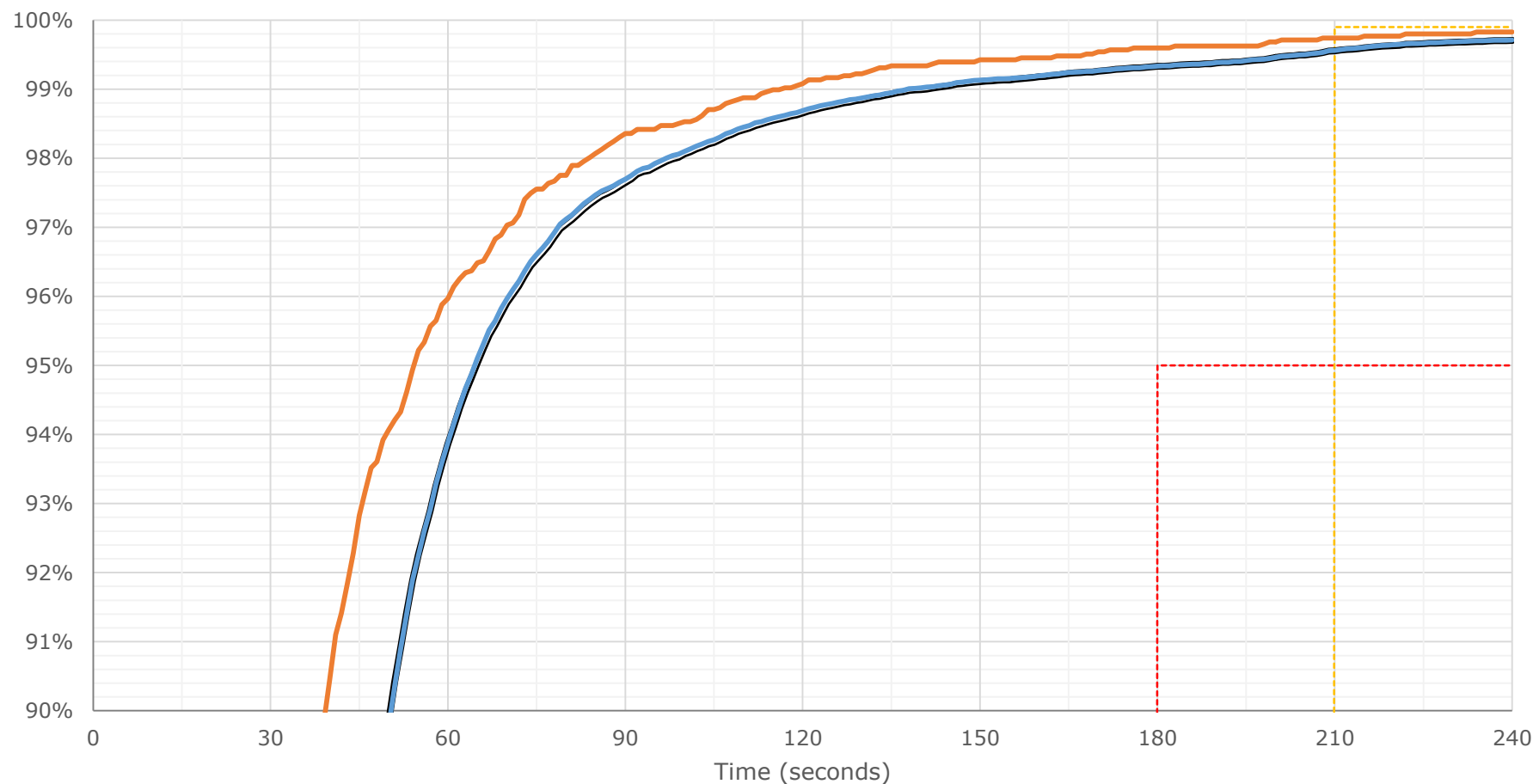
— Total(2,384,117) — SAT(1,878,365) — VHF(505,752)



Fukuoka FIR - By Media Type - Jan to Jun 2016

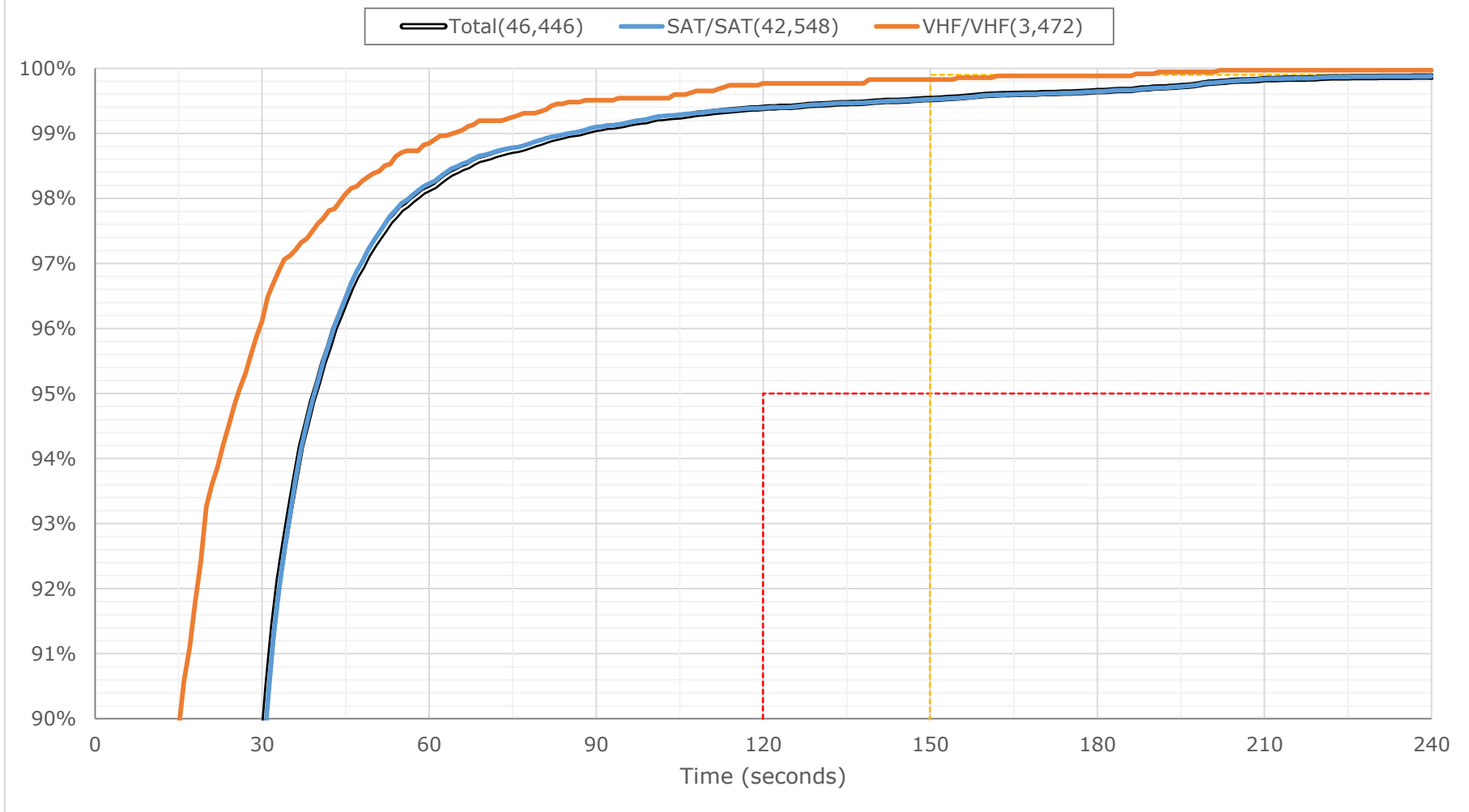
CPDLC Actual Communication Performance (ACP)

— Total(46,446) — SAT/SAT(42,548) — VHF/VHF(3,472)



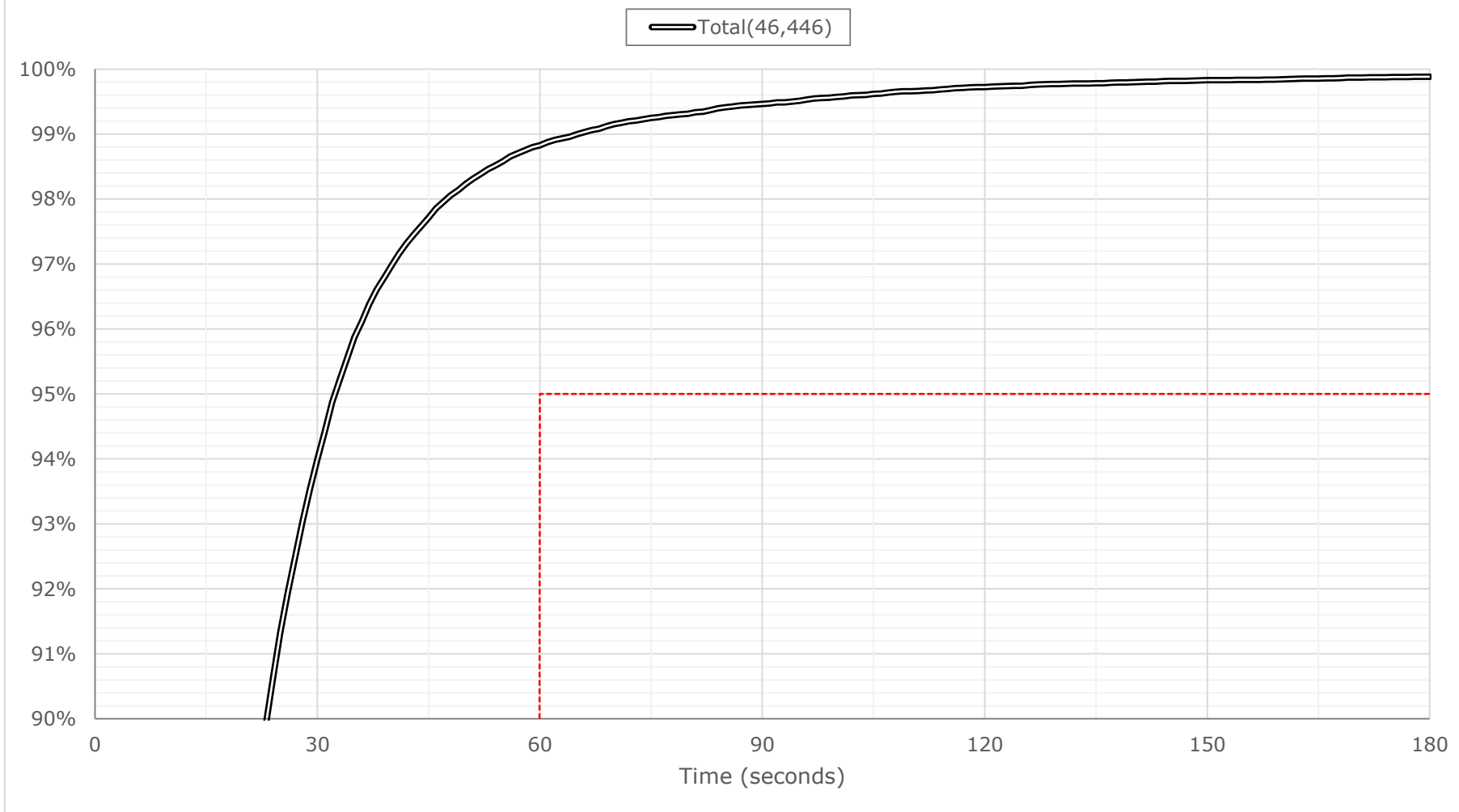
Fukuoka FIR - By Media Type - Jan to Jun 2016

CPDLC Actual Communication Technical Performance (ACTP)



Fukuoka FIR - By Media Type - Jan to Jun 2016

CPDLC Pilot Operational Response Time (PORT)



OBSERVED PERFORMANCE BY MONTH

Observed Performance by Month

Observed Performance by Month

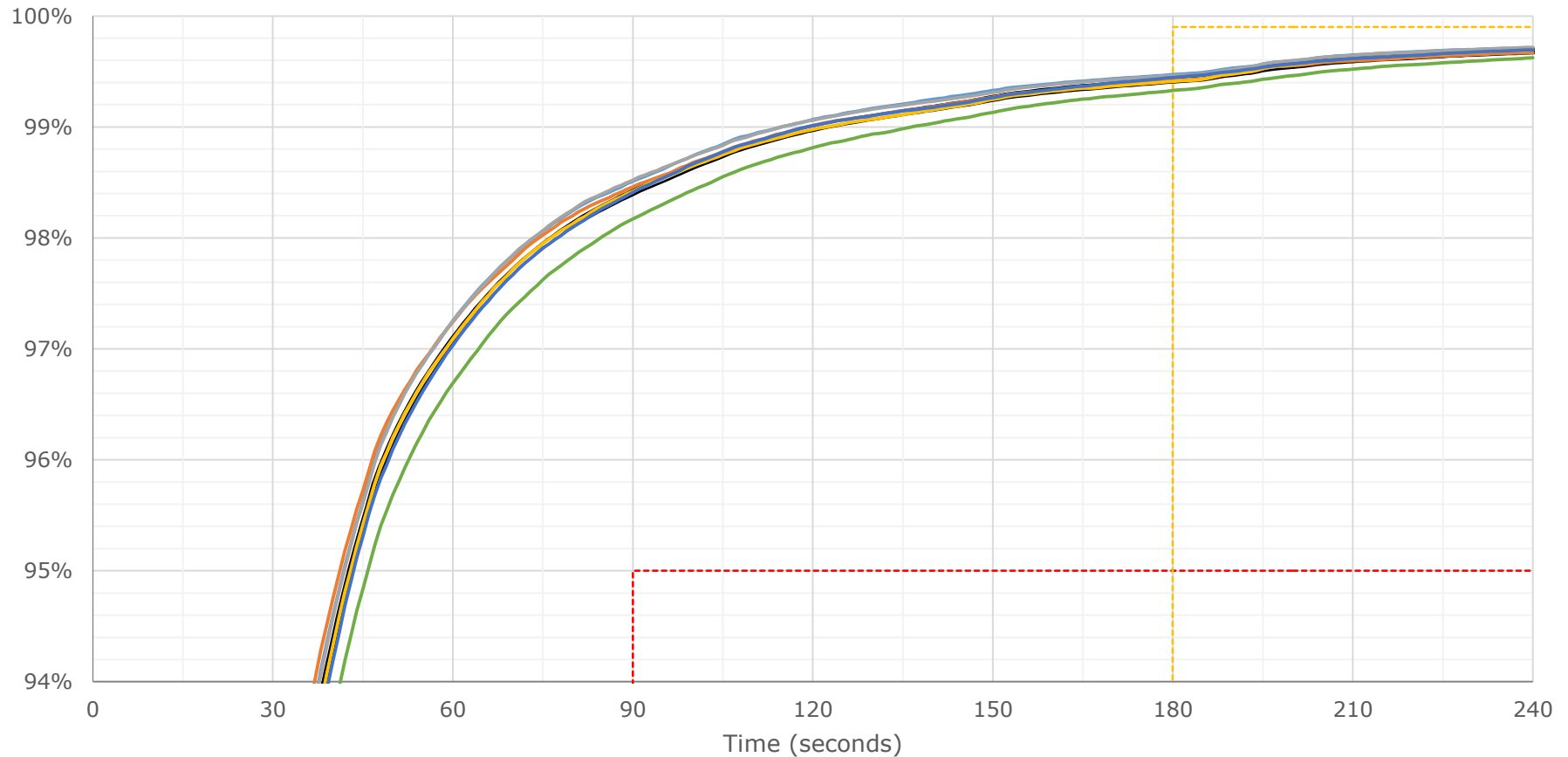
Jan 2016 ~ Jun 2016

Month	ADS-C [RSP180]			CPDLC [RCP240]					
	Count of ADS-C	ASP		Count of CPDLC	ACTP		ACP		PORT
		95% (90sec)	99.9% (180sec)		95% (120sec)	99.9% (150sec)	95% (180sec)	99.9% (210sec)	95% (60sec)
Total	2,384,117	98.41%	99.42%	46,446	99.39%	99.53%	99.33%	99.56%	98.83%
Jan-16	384,907	98.51%	99.47%	7,251	99.35%	99.53%	99.23%	99.60%	98.81%
Feb-16	333,907	98.46%	99.42%	5,999	99.50%	99.55%	99.43%	99.63%	98.90%
Mar-16	397,610	98.52%	99.46%	7,698	99.35%	99.44%	99.36%	99.52%	98.95%
Apr-16	394,343	98.42%	99.41%	8,152	99.47%	99.58%	99.42%	99.63%	98.95%
May-16	436,479	98.41%	99.45%	8,782	99.34%	99.53%	99.21%	99.51%	98.67%
Jun-16	436,871	98.17%	99.33%	8,564	99.36%	99.53%	99.35%	99.47%	98.73%
Meets criteria ⇒			Under criteria but above 99.0% ⇒				Under criteria ⇒		

Fukuoka FIR - By Month - Jan to Jun 2016

ADS-C Actual Surveillance Performance (ASP)

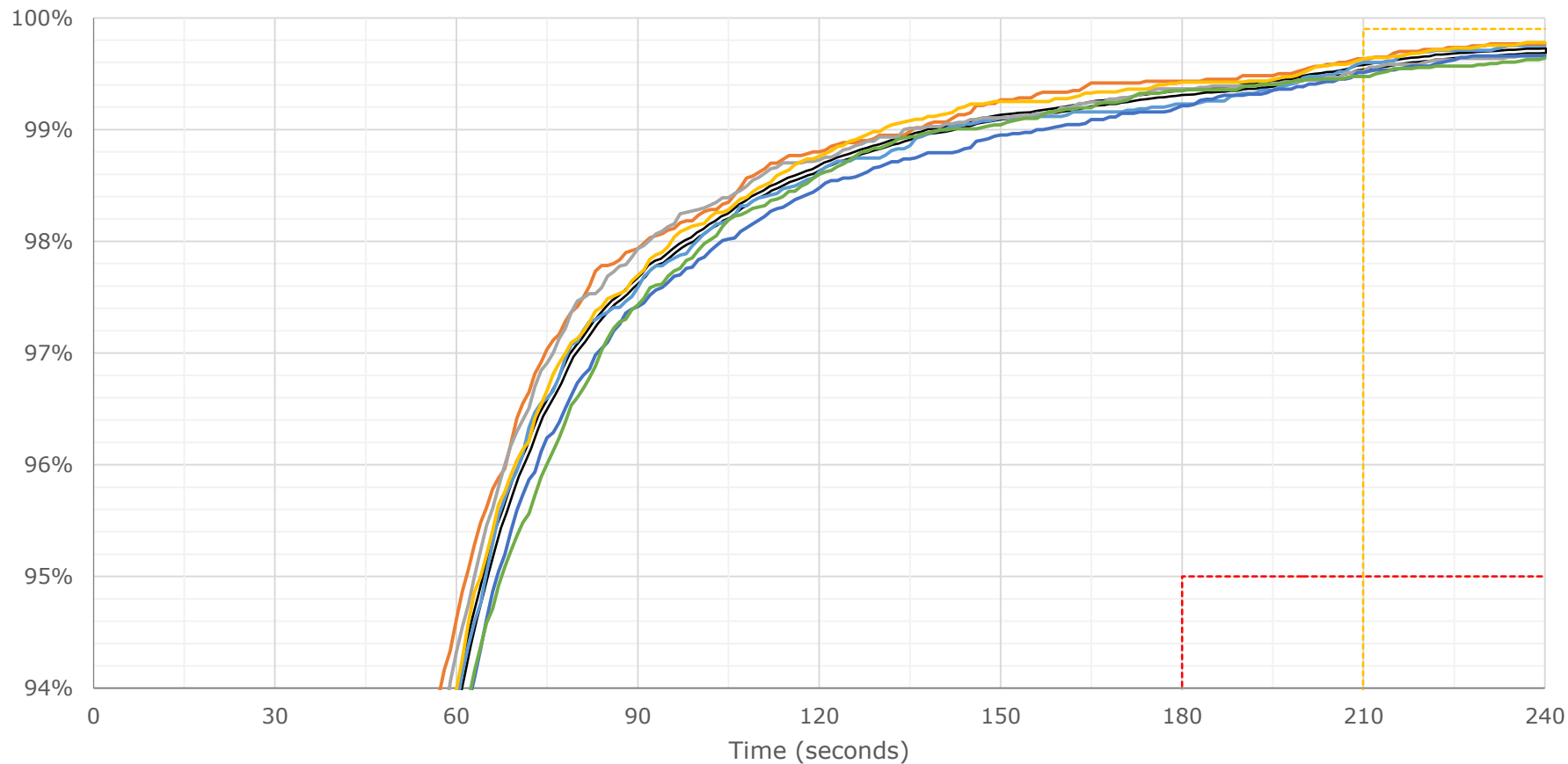
Legend:
Total(2,384,117) Jan-16(384,907) Feb-16(333,907) Mar-16(397,610)
Apr-16(394,343) May-16(436,479) Jun-16(436,871)



Fukuoka FIR - By Month - Jan to Jun 2016

CPDLC Actual Communication Performance (ACP)

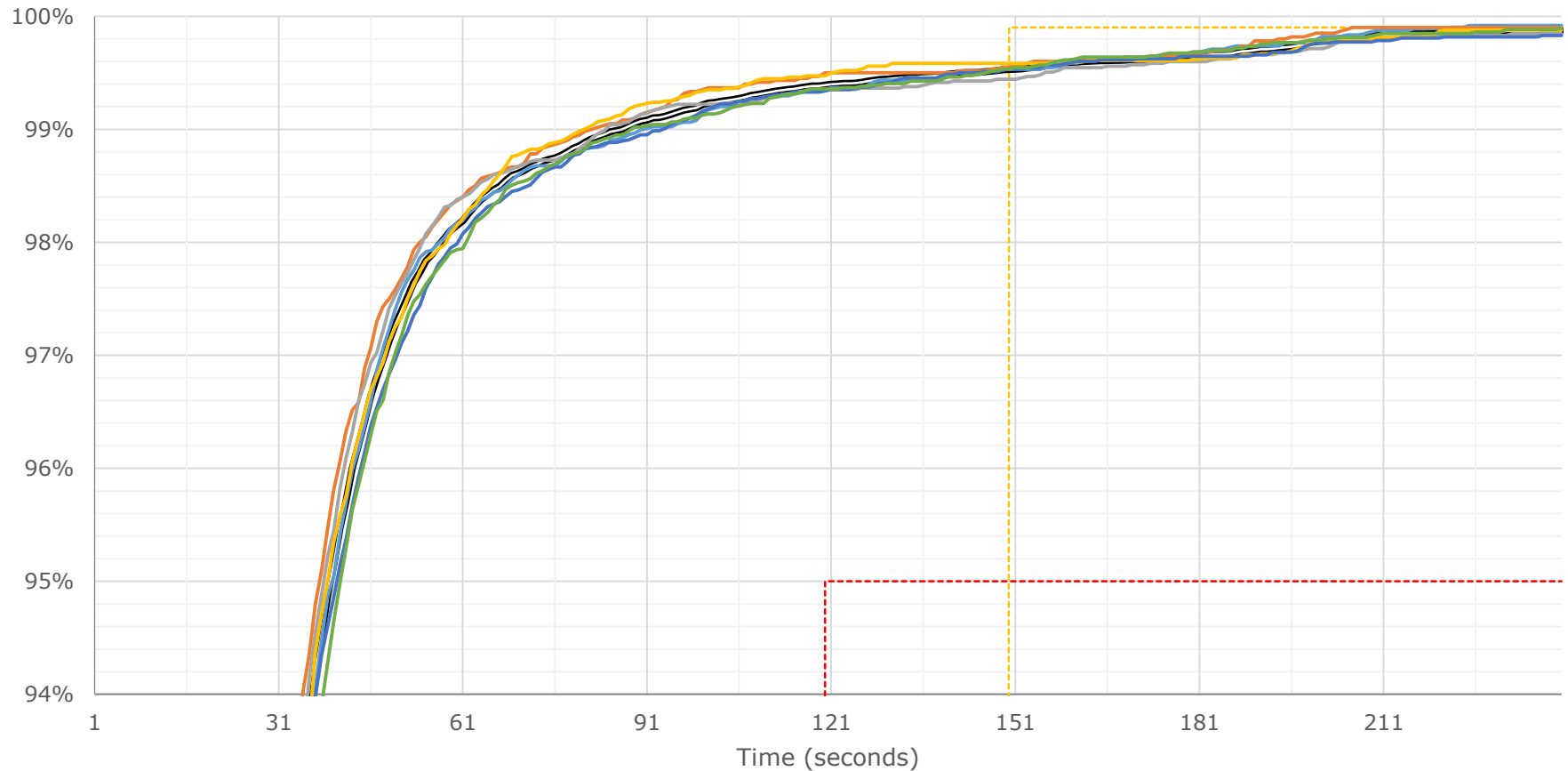
— Total(46,446) — Jan-16(7,251) — Feb-16(5,999) — Mar-16(7,698)
— Apr-16(8,152) — May-16(8,782) — Jun-16(8,564)



Fukuoka FIR - By Month - Jan to Jun 2016

CPDLC Actual Communication Technical Performance (ACTP)

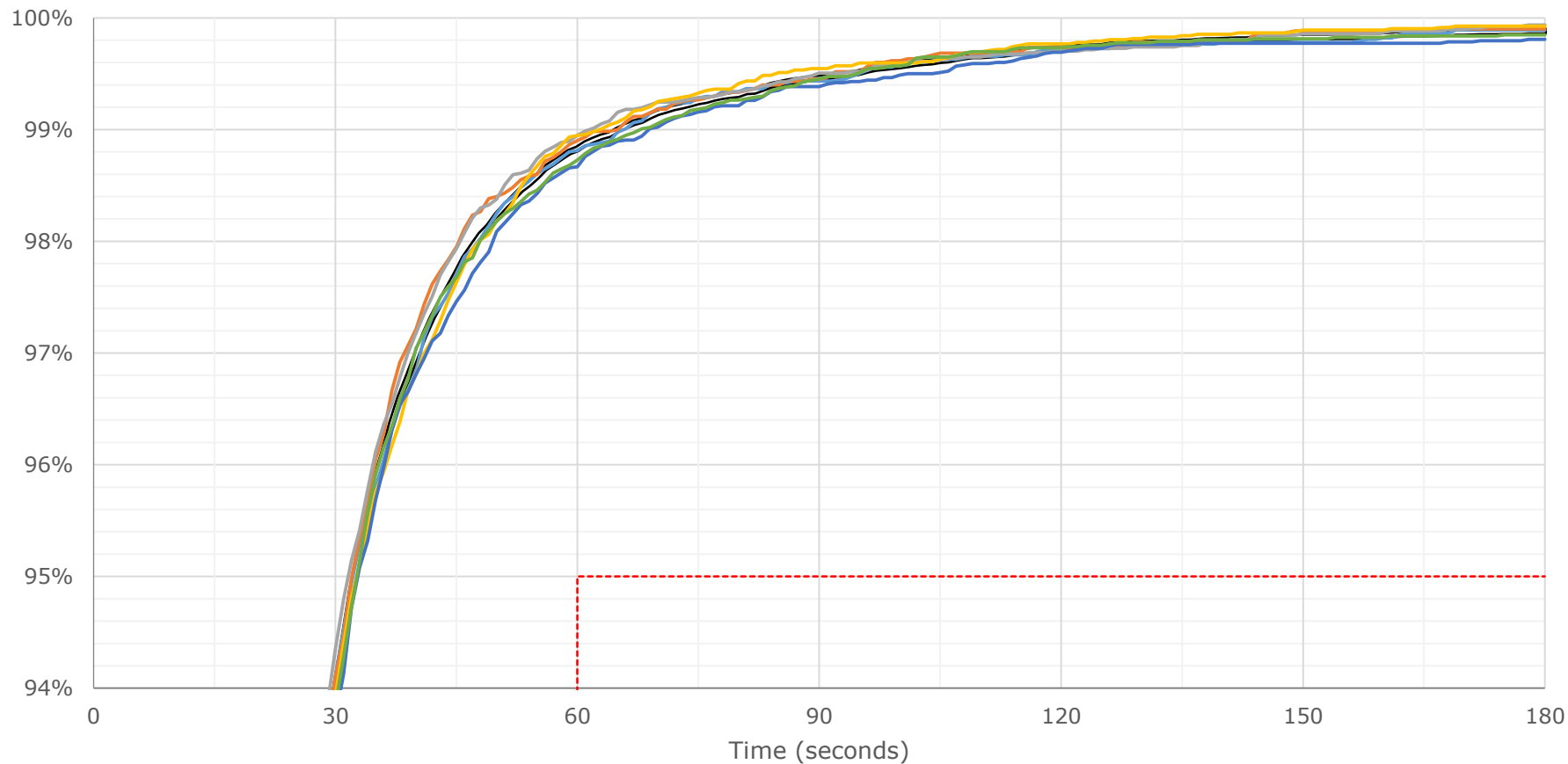
— Total(46,446) — Jan-16(7,251) — Feb-16(5,999) — Mar-16(7,698)
— Apr-16(8,152) — May-16(8,782) — Jun-16(8,564)



Fukuoka FIR - By Month - Jan to Jun 2016

CPDLC Pilot Operational Response Time (PORT)

Legend:
Total(46,446) Jan-16(7,251) Feb-16(5,999) Mar-16(7,698)
Apr-16(8,152) May-16(8,782) Jun-16(8,564)



OBSERVED PERFORMANCE BY STATION IDENTIFIER

Observed Performance by Station Identifier

Station / Gateway Identifiers

Satellite	GES Location	Region	SITA	ARINC
Inmarsat I-3	Borum, Netherlands	AOR-E	AOE2	XXN
		AOR-W	AOW2	XXW
	Parth, Australia	IOR	IOR2	XXI
		POR	POR1	XXP
Inmarsat I-4	Fucino, Italy	EMEA	EUA1	XXF
	Borum, Netherlands	<i>EMEA (SBB)</i>	<i>EME9</i>	<i>XXB</i>
	Paumalu, Hawaii	Americas	AME1	XXH
		<i>Americas (SBB)</i>	<i>AMR9</i>	<i>XXU</i>
		Asia-Pac	APK1	XXA
		<i>Asia-Pac (SBB)</i>	<i>PAC9</i>	<i>XXS</i>
Iridium	Phoenix, Arizona	Global	IGW1	IG1
MTSAT	Kobe and Hitachiota	Japan	MTS1	-

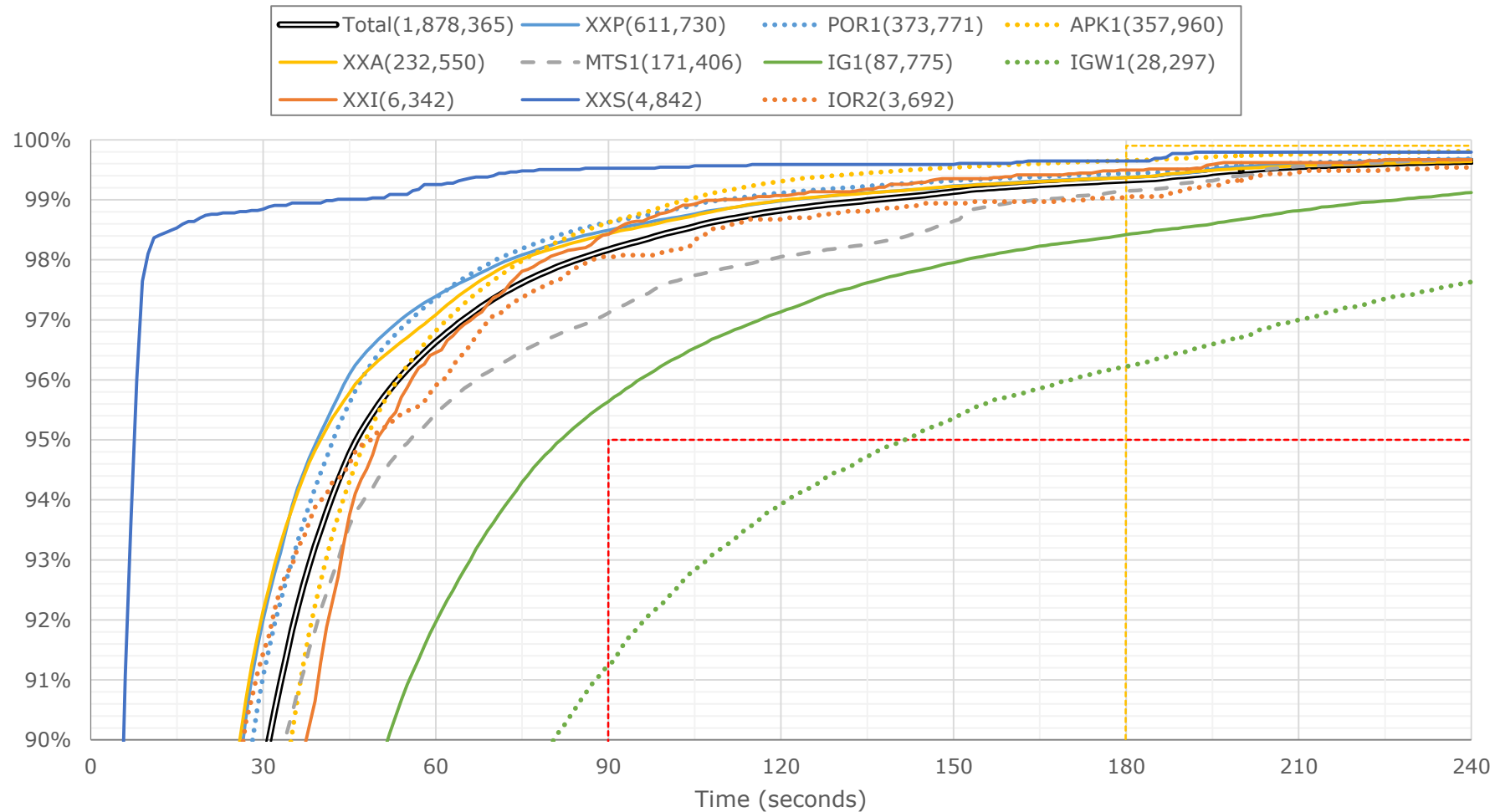
Observed Performance by Station Identifier

Jan 2016 ~ Jun 2016

Station ID	ADS-C [RSP180]			CPDLC [RCP240]					
	Count of ADS-C	ASP		Count of CPDLC	ACTP		ACP		PORT
		95% (90sec)	99.9% (180sec)		95% (120sec)	99.9% (150sec)	95% (180sec)	99.9% (210sec)	95% (60sec)
Total	1,878,365	98.17%	99.33%	42,736	99.38%	99.52%	99.32%	99.55%	98.85%
XXP	611,730	98.49%	99.37%	13,548	99.40%	99.51%	99.32%	99.56%	98.55%
POR1	373,771	98.63%	99.44%	7,807	99.26%	99.45%	99.15%	99.44%	98.60%
APK1	357,960	98.62%	99.66%	9,361	99.72%	99.78%	99.70%	99.81%	99.42%
XXA	232,550	98.43%	99.37%	4,694	99.36%	99.42%	99.36%	99.53%	99.32%
MTS1	171,406	97.11%	99.15%	4,340	99.35%	99.54%	99.42%	99.75%	99.40%
IG1	87,775	95.64%	98.42%	2,207	99.05%	99.14%	98.82%	99.05%	97.69%
IGW1	28,297	91.24%	96.22%	417	95.20%	97.36%	95.44%	97.36%	95.92%
XXI	6,342	98.42%	99.50%	101	100.00%	100.00%	99.01%	99.01%	98.02%
XXS	4,842	99.52%	99.65%	211	100.00%	100.00%	99.53%	99.53%	99.05%
IOR2	3,692	98.05%	99.05%	50	98.00%	100.00%	96.00%	96.00%	92.00%
Meets criteria ⇒			Under criteria but above 99.0% ⇒			Under criteria ⇒			

Fukuoka FIR - By Station Identifier - Jan to Jun 2016

ADS-C Actual Surveillance Performance (ASP)



OBSERVED PERFORMANCE BY OPERATOR

Observed Performance by Operator (1/2)

Jan 2016 ~ Jun 2016

OP Code	ADS-C [RSP180]				CPDLC [RCP240]						
	Count of ADS-C	% of Total ADS-C	ASP		Count of CPDLC	% of Total CPDLC	ACTP		ACP		PORT
			95% (90sec)	99.9% (180sec)			95% (120sec)	99.9% (150sec)	95% (180sec)	99.9% (210sec)	95% (60sec)
G	254,959	10.69%	98.59%	99.67%	6,684	14.39%	99.64%	99.76%	99.70%	99.87%	99.54%
J	208,608	8.75%	98.46%	99.48%	4,442	9.56%	99.55%	99.71%	99.57%	99.68%	99.21%
D	205,924	8.64%	98.81%	99.64%	2,879	6.20%	99.44%	99.55%	99.31%	99.51%	99.03%
A	193,791	8.13%	97.35%	98.86%	4,054	8.73%	98.94%	99.14%	98.91%	99.33%	98.00%
L	176,869	7.42%	97.77%	99.19%	3,729	8.03%	99.01%	99.25%	98.87%	99.36%	97.32%
Q	168,487	7.07%	98.37%	99.35%	4,209	9.06%	99.69%	99.71%	99.64%	99.71%	99.19%
H	124,543	5.22%	99.51%	99.72%	2,926	6.30%	99.69%	99.76%	99.56%	99.66%	99.49%
F	114,109	4.79%	99.22%	99.68%	2,549	5.49%	99.73%	99.76%	99.57%	99.73%	99.22%
T	85,885	3.60%	99.08%	99.74%	1,363	2.93%	99.56%	99.63%	99.41%	99.63%	99.34%
DJ	84,352	3.54%	98.81%	99.63%	1,669	3.59%	99.40%	99.40%	99.16%	99.40%	98.50%
R	81,843	3.43%	98.61%	99.47%	1,515	3.26%	98.94%	99.08%	99.14%	99.41%	98.75%
DB	67,055	2.81%	98.56%	99.57%	724	1.56%	99.03%	99.17%	99.31%	99.31%	99.31%
S	61,814	2.59%	98.40%	99.56%	883	1.90%	99.09%	99.43%	99.09%	99.32%	98.87%
P	58,505	2.45%	98.63%	99.21%	911	1.96%	99.23%	99.34%	99.34%	99.56%	99.89%
Y	52,196	2.19%	95.30%	97.61%	483	1.04%	95.65%	97.52%	96.07%	97.10%	97.10%
O	48,805	2.05%	98.75%	99.66%	961	2.07%	99.58%	99.79%	99.58%	99.69%	98.44%
DA	42,287	1.77%	99.27%	99.87%	1,169	2.52%	99.91%	99.91%	99.83%	99.83%	99.23%
DK	30,767	1.29%	98.09%	99.23%	416	0.90%	99.52%	99.52%	98.80%	99.52%	98.08%
CY	26,109	1.10%	99.10%	99.75%	363	0.78%	99.72%	99.72%	99.72%	99.72%	99.72%
N	26,048	1.09%	94.10%	98.60%	209	0.45%	98.56%	99.04%	98.56%	99.04%	98.09%
Meets criteria ⇒				Under criteria but above 99.0% ⇒			Under criteria ⇒				

Observed Performance by Operator (2/2)

Jan 2016 ~ Jun 2016

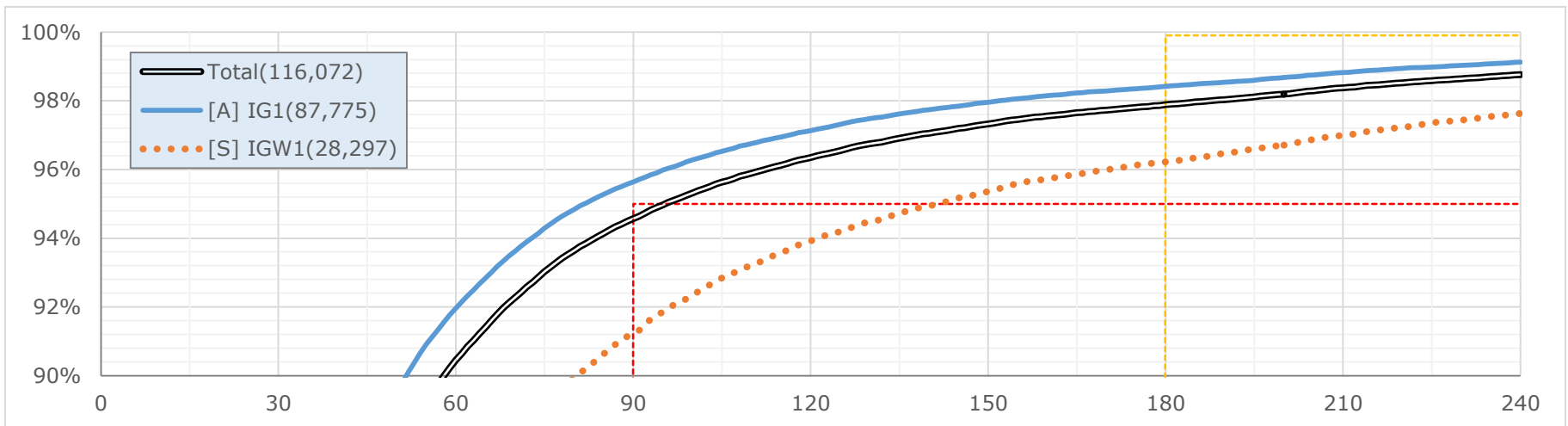
OP Code	ADS-C [RSP180]				CPDLC [RCP240]						
	Count of ADS-C	% of Total ADS-C	ASP		Count of CPDLC	% of Total CPDLC	ACTP		ACP		PORT
			95% (90sec)	99.9% (180sec)			95% (120sec)	99.9% (150sec)	95% (180sec)	99.9% (210sec)	95% (60sec)
B	25,515	1.07%	99.14%	99.56%	343	0.74%	99.42%	99.71%	99.13%	99.13%	97.96%
DH	21,362	0.90%	98.57%	99.19%	583	1.26%	99.66%	99.66%	99.66%	99.66%	99.83%
E	18,297	0.77%	97.63%	99.32%	192	0.41%	97.40%	97.40%	97.40%	98.44%	98.96%
CT	16,094	0.68%	99.37%	99.74%	103	0.22%	100.00%	100.00%	100.00%	100.00%	98.06%
CW	14,142	0.59%	99.12%	99.82%	200	0.43%	99.00%	99.50%	99.00%	100.00%	99.50%
CG	14,096	0.59%	98.51%	99.39%	264	0.57%	99.24%	99.24%	98.48%	98.86%	96.59%
AB	12,398	0.52%	97.46%	98.81%	298	0.64%	98.99%	99.33%	99.33%	99.66%	98.99%
ZI	11,637	0.49%	97.31%	99.54%	195	0.42%	100.00%	100.00%	98.46%	99.49%	98.46%
W	10,758	0.45%	98.19%	99.84%	157	0.34%	100.00%	100.00%	100.00%	100.00%	99.36%
WW	10,362	0.43%	98.94%	99.68%	107	0.23%	99.07%	99.07%	99.07%	99.07%	100.00%
DW	10,358	0.43%	99.20%	99.40%	194	0.42%	100.00%	100.00%	100.00%	100.00%	96.91%
ZR	8,585	0.36%	98.77%	99.57%	121	0.26%	100.00%	100.00%	100.00%	100.00%	99.17%
DE	8,312	0.35%	98.97%	99.58%	138	0.30%	99.28%	99.28%	99.28%	100.00%	100.00%
CL	7,277	0.31%	99.92%	100.00%	118	0.25%	100.00%	100.00%	100.00%	100.00%	100.00%
AM	7,256	0.30%	96.75%	98.90%	116	0.25%	100.00%	100.00%	100.00%	100.00%	97.41%
CR	5,894	0.25%	99.76%	99.95%	133	0.29%	100.00%	100.00%	100.00%	100.00%	100.00%
AC	4,392	0.18%	98.50%	99.13%	24	0.05%	100.00%	100.00%	100.00%	100.00%	100.00%
CN	4,050	0.17%	99.38%	99.48%	83	0.18%	100.00%	100.00%	100.00%	100.00%	96.39%
V	3,798	0.16%	99.95%	99.95%	72	0.16%	100.00%	100.00%	100.00%	100.00%	98.61%
DC	3,643	0.15%	98.05%	99.23%	67	0.14%	100.00%	100.00%	98.51%	100.00%	97.01%
Meets criteria ⇒				Under criteria but above 99.0% ⇒			Under criteria ⇒				

FANS 1 / A OVER IRIDIUM

Observed Performance for Iridium

Jan 2016 ~ Jun 2016

Media Type	ADS-C [RSP180]			CPDLC [RCP240]					
	Count of ADS-C	ASP		Count of CPDLC	ACTP		ACP		PORT
		95% (90sec)	99.9% (180sec)		95% (120sec)	99.9% (150sec)	95% (180sec)	99.9% (210sec)	95% (60sec)
Total	116,072	94.57%	97.88%	2,624	98.44%	98.86%	98.29%	98.78%	97.41%
IG1 (ARINC)	87,775	95.64%	98.42%	2,207	99.05%	99.14%	98.82%	99.05%	97.69%
IGW1 (SITA)	28,297	91.24%	96.22%	417	95.20%	97.36%	95.44%	97.36%	95.92%
Meets criteria ⇒			Under criteria but above 99.0% ⇒				Under criteria ⇒		



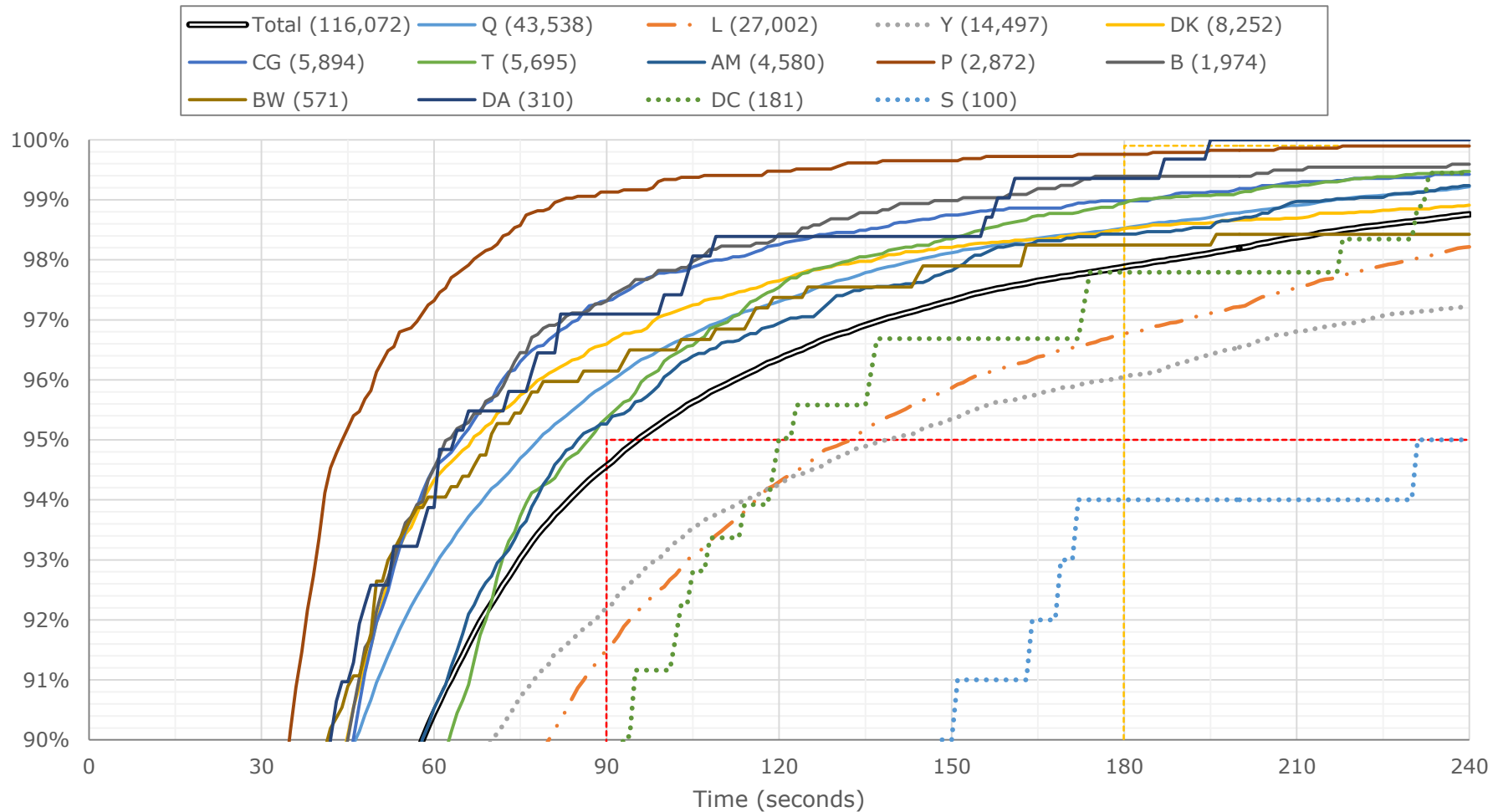
Observed Performance for Iridium by Operator

Jan 2016 ~ Jun 2016

OP Code	ADS-C [RSP180]				CPDLC [RCP240]						
	Count of ADS-C	% of Total ADS-C	ASP		Count of CPDLC	% of Total CPDLC	ACTP		ACP		PORT
			95% (90sec)	99.9% (180sec)			95% (120sec)	99.9% (150sec)	95% (180sec)	99.9% (210sec)	95% (60sec)
Q	43,538	37.51%	95.93%	98.53%	1,167	44.47%	99.49%	99.57%	99.57%	99.74%	99.14%
L	27,002	23.26%	91.50%	96.77%	664	25.30%	96.23%	97.14%	96.23%	97.44%	94.88%
Y	14,497	12.49%	92.20%	96.05%	133	5.07%	98.50%	100.00%	98.50%	98.50%	96.99%
DK	8,252	7.11%	96.59%	98.52%	169	6.44%	100.00%	100.00%	98.22%	99.41%	95.86%
CG	5,894	5.08%	97.32%	98.98%	141	5.37%	99.29%	99.29%	98.58%	98.58%	96.45%
T	5,695	4.91%	95.36%	98.95%	141	5.37%	98.58%	98.58%	98.58%	98.58%	100.00%
AM	4,580	3.95%	95.26%	98.43%	93	3.54%	100.00%	100.00%	100.00%	100.00%	96.77%
P	2,872	2.47%	99.13%	99.76%	48	1.83%	100.00%	100.00%	100.00%	100.00%	100.00%
B	1,974	1.70%	97.32%	99.39%	28	1.07%	100.00%	100.00%	100.00%	100.00%	100.00%
BW	571	0.49%	96.15%	98.25%	15	0.57%	93.33%	100.00%	93.33%	93.33%	93.33%
DA	310	0.27%	97.10%	99.35%	11	0.42%	100.00%	100.00%	100.00%	100.00%	100.00%
DC	181	0.16%	88.40%	97.79%	2	0.08%	100.00%	100.00%	100.00%	100.00%	100.00%
S	100	0.09%	79.00%	94.00%	2	0.08%	50.00%	100.00%	50.00%	50.00%	50.00%
Meets criteria ⇒				Under criteria but above 99.0% ⇒				Under criteria ⇒			

Fukuoka FIR - Iridium - By Operator - Jan to Jun 2016

ADS-C Actual Surveillance Performance (ASP)



FANS 1/A OVER SBB

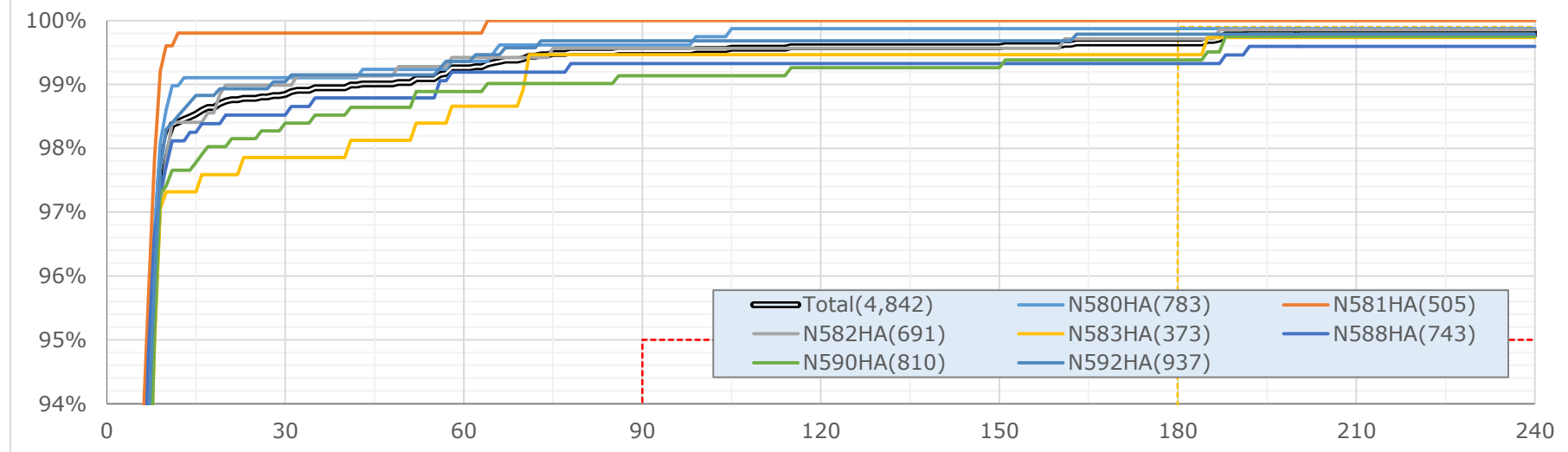
Observed Performance for I-4 SBB

Jan 2016 ~ Jun 2016

Media Type	ADS-C [RSP180]			CPDLC [RCP240]					
	Count of ADS-C	ASP		Count of CPDLC	ACTP		ACP		PORT
		95% (90sec)	99.9% (180sec)		95% (120sec)	99.9% (150sec)	95% (180sec)	99.9% (210sec)	95% (60sec)
XXS	4,842	99.52%	99.65%	211	100.00%	100.00%	99.53%	99.53%	99.05%
Meets criteria ⇒				Under criteria but above 99.0% ⇒			Under criteria ⇒		

Fukuoka FIR - I-4 SBB - By Aircraft - Jan to Jun 2016

ADS-C Actual Surveillance Performance (ASP)

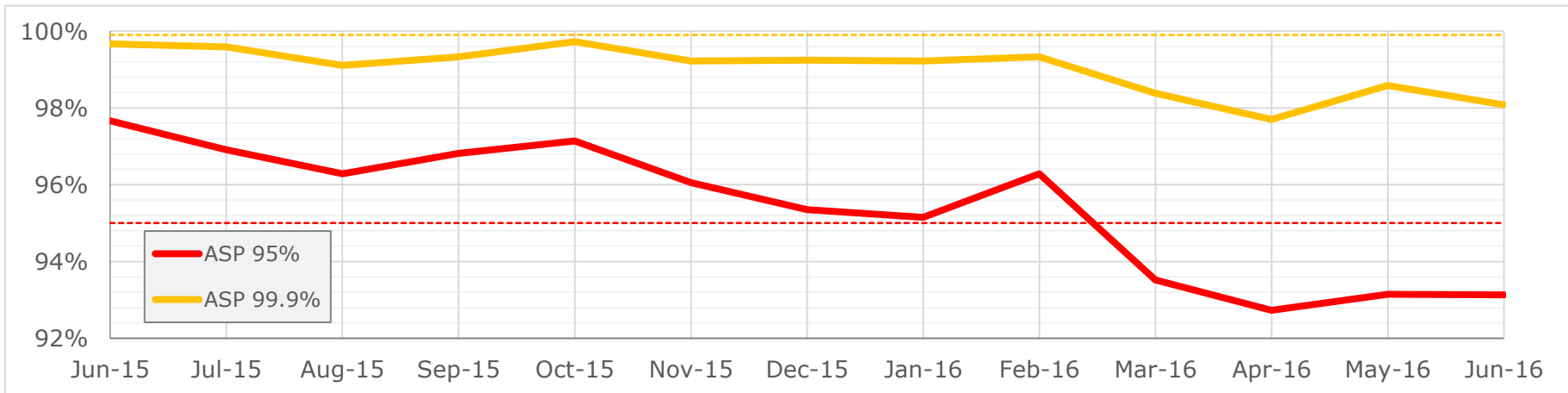


INVESTIGATION

Observed Performance for Operator N

Jan 2016 ~ Jun 2016

Month	ADS-C [RSP180]			CPDLC [RCP240]					
	Count of ADS-C	ASP		Count of CPDLC	ACTP		ACP		PORT
		95%	99.90%		95%	99.90%	95%	99.90%	95%
Jan-16	5,028	95.15%	99.22%	36	100.00%	100.00%	100.00%	100.00%	100.00%
Feb-16	4,631	96.29%	99.33%	30	96.67%	96.67%	96.67%	100.00%	100.00%
Mar-16	4,938	93.52%	98.38%	65	96.92%	98.46%	96.92%	96.92%	95.38%
Apr-16	4,004	92.73%	97.70%	24	100.00%	100.00%	100.00%	100.00%	95.83%
May-16	3,954	93.15%	98.58%	26	100.00%	100.00%	100.00%	100.00%	100.00%
Jun-16	3,493	93.13%	98.08%	28	100.00%	100.00%	100.00%	100.00%	100.00%
Meets criteria ⇒			Under criteria but above 99.0% ⇒				Under criteria ⇒		



- ❑ Not meet RSP180 95% criteria from March 2016
- ❑ Aircraft Type: B788
- ❑ MTSAT 600bps
- ❑ Requesting to use 10.5kbps

Fukuoka FIR - B787 via MTSAT - By Operator - Jun 2016
ADS-C Actual Surveillance Performance (ASP)

